

CLAIMS

What is claimed is:

1. A current source switching circuit with reduced charge injection, comprising:
a transistor switch; and
a pulling mirror path in parallel with said transistor switch.

2. The current source switching circuit according to claim 1,
further comprising:
a current source connected between a power source and a
first side of said transistor switch.

3. The current source switching circuit according to claim 2,
further comprising:
a load connected between a ground and a second side of
said transistor switch.

4. The current source switching circuit according to claim 3,
wherein:
said load is a charging capacitor.

5. The current source switching circuit according to claim 1,
wherein said transistor switch comprises:
a MOS transistor.

Sub H1

6. The current source switching circuit according to claim 1,
wherein said transistor switch comprises:

5 a first serial combination of a functional MOS transistor with
a first compensating transistor connected to a source of said functional
MOS transistor and a second compensating transistor connected to a
drain of said functional MOS transistor.

7. The current source switching circuit according to claim 6,
wherein said transistor switch further comprises:

10 a second serial combination of a complementary functional
MOS transistor with a first complementary compensating transistor
connected to a source of said complementary functional MOS transistor
and a second complementary compensating transistor connected to a
drain of said complementary functional MOS transistor.

15 8. The current source switching circuit according to claim 1,
wherein said pulling mirror path comprises:
a pull-down amplifier.

20 9. The current source switching circuit according to claim 8,
wherein:
said pull-down amplifier is configured as a voltage follower to
have an output which follows a current source side of said switch.

25 10. The current source switching circuit according to claim
8, further comprising:
a complementary mirror path transistor switch, said
complementary mirror path transistor switch being adapted for operation
opposite to that of said transistor switch.

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~~11. The current source switching circuit according to claim
10, wherein said complementary mirror path transistor switch comprises:
a series combination of a functional transistor with a
respective compensating transistor connected to either side of said
functional transistor.~~

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~~12. The current source switching circuit according to claim
2, wherein said current source comprises:
a MOS transistor.~~

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~~13. The current source switching circuit according to claim
1, wherein said pulling mirror path comprises:
a pull-up amplifier.~~

~~14. The current source switching circuit according to claim
13, further comprising:
a current source connected between a ground and a first
side of said transistor switch.~~

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~~15. The current source switching circuit according to claim
13, further comprising:
a current sink connected between a ground and a second
side of said transistor switch.~~

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~~16. The current source switching circuit according to claim
15, wherein said current sink comprises:
a MOS transistor.~~

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16, wherein said current source comprises:
a charged capacitor.

5 18. A method of reducing charge injection from a current
source through a current switch into a load, said method comprising:
 providing a mirror path in parallel with said current switch;
 turning a switch in said mirror path on when said current
switch is turned off; and
10 turning said switch in said mirror path off when said current
switch is turned on.

15 19. The method of reducing charge injection from a current
source through a current switch into a load according to claim 18,
wherein:
 said current source is a MOS transistor.

20 20. The method of reducing charge injection from a current
source through a current switch into a load according to claim 18,
wherein:
 said current source is a charged capacitor.

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21. A method of switching a current source out from a load,
said method comprising:
opening a transistor switch connecting said current source to
said load; and
5 substantially simultaneously with said step of opening,
closing a switch to a mirror path in parallel with said transistor switch so
that current from said current source flows through said mirror path;
wherein charge injection from said current source to said
load when said transistor switch is opened is greatly reduced.

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22. Apparatus for switching a current source out from a
load, comprising:

means for opening a transistor switch connecting said
current source to said load; and

15 means for closing a switch to a mirror path in parallel with
said transistor switch at substantially simultaneously a same time as said
means for opening opens said transistor switch so that current from said
current source flows through said mirror path;

20 wherein charge injection from said current source to said
load when said transistor switch is opened is greatly reduced.

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